

REMARKS/ARGUMENTS

Favorable consideration of this application is respectfully requested. Applicant has rewritten claims 1, 6, 11 and 24, and canceled claims 25, 27 and 29. Applicant gratefully appreciated the telephone consultation with Examiner Jiang and Tyler on December 6, 2006. The interview discussed the final rejection references of record, namely the Jordan patent. Applicant mentioned that they would provide amendments to the independent claims that would hopefully obviate the rejections of record. Favorable reconsideration of this application is, consequently, earnestly solicited in view of the following remarks.

Each of the independent claims 1, 6, 11 and 24 have been amended to include structural limitations of having only "two to five twisted blades", and "the hub having an axis of rotation.....the tip end of each of the blades having an airfoil surface being substantially perpendicular to the rotational axis of the hub, the root end of each of the blades having an airfoil surface being substantially tilted to the rotational axis of the hub, each of the twisted blades having a root end chord width substantially greater than a tip end chord width." Such features are clearly shown, for example, in Figures 33 and on at least pages 38+ of the specification.

Claims 1-4, 6-9, 11-14, 18-35, 37 and 38 were rejected under sec. 103 by Martin '966 in view of Jordan '854 and Swartwout '801.

As admitted by the examiner, both Martin and Swartwout each do not describe, teach or suggest using twisted blades as required by the subject claims which is an important feature of the subject invention. The Jordan reference shows a blade that is substantially and structurally different from that of the subject invention.

Jordan clearly shows and describes substantially different structural shaped and oriented blades. For Example, Figures 1, and 5-6 of Jordan show the root end of their blades and the tip end substantially parallel to the hub axis of rotation which is substantially different from the subject invention claims. Additionally, the tip ends of the blades are substantially similar in chord width to the root ends, which is also substantially different from that of the subject invention. Still furthermore, Jordan operates their "fan...at approximately 3000rpm", column 4, lines 24+, which is substantially higher than any operating speeds claimed in the subject independent claims.

There is no teaching, description or suggestion in Jordan to operate in the rpm ranges claimed by the subject invention and achieve the novel "cfm" ranges claimed by the subject claims. It is clearly improper to pick and choose various references together as done in the subject rejection. Clearly, the listed references together DO NOT describe, teach or suggest ALL THE FEATURES required by the subject claims. Thus, removal of this rejection is respectfully requested.

Claims 60, 63, 66 and 69 were rejected by Martin/Jordan/Swarthout and Zeng. The Zeng reference does not overcome the deficiencies to the other references above. Zeng does not overcome the chord width differences and blade orientation differences depicted in the previous references. Zeng does not have blades where the root ends have a "greater angle of twist" than the tip ends as required by the claims, and Zeng does not operate their blades within the claimed ranges of the subject invention to achieve the claimed cfm ranges claimed in the subject claims. Thus, removal of the Zeng reference is respectfully requested.

Claims 61, 62, 64, 65, 67, 68, 70 and 71 were rejected by Martin/Jordan/Swarthout and Stauder. The Stauder reference does not overcome the deficiencies to the other references above. Stauder does not have blades where the root ends have a "greater angle of twist" than the tip ends as required by the claims, and Zeng does not operate their blades within the claimed ranges of the

subject invention to achieve the claimed cfm ranges claimed in the subject claims. Thus, removal of the Zeng reference is respectfully requested.

Claims 1-4, 6-9, 11-14, 18-35, 37, 38, 61, 62, 64, 65, 67, 68, 70 and 71 were rejected under sec. 103 as obvious by Van Houten in view of Wills or Milewski and in view of Tolbert.

The Van Houten patent 4,971,520 was cited in the parent patent application serial No. 10/400,888 which was already overcome by the filing of a terminal disclaimer in the subject invention. Applicant directs the examiner's attention to U.S. Patent 7,014,423 which clearly lists the Van Houten patent as being cited as prior art. The examiner in the subject case clearly admits by previously requiring a terminal disclaimer that the subject claims overlap those of U.S. Patent 7,014,423. Van Houten describes a structurally different "fan" that requires substantially more than the 2-5 blades that are claimed by the subject claims.

MPEP section 706.04 states that full faith and credit should be given to the action of a previous examiner unless there is clear error in the previous action or knowledge of other prior art. The examiner in the subject case should not take an entirely new approach or attempt to reorient the point of view of a previous examiner in mere hopes of finding something. *Amgen Inc. v. Hoechst Marion Roussel, Inc.* 126 F. Supp. 2d 69, 139, 57 USPQ 2d 1449(D-Mass 2001). Since the Van Houten reference was found to be overcome in the parent case which matured into a U.S. patent, removal of the Van Houten reference is respectfully requested here as well.

Furthermore, Van Houten was distinguished by the inventors in the background section of the subject application on pages 5-6. Van Houten attaches a "plurality of blades ...to an impeller...which is not optimal for standard outdoor air conditioning systems.... Van Houten requires in their Fig. 1 of placement "in front of the heat exchange surface..." as previously discussed by applicant. Thus, for at least these reasons removal of the Van Houten reference is respectfully requested.

Furthermore, Van Houten does not describe, teach or suggest the novel combined output claimed "cfm", based on the claimed "rpm" values and "power ...watts" claimed in the subject claims.

Willis and Milewski do not overcome the deficiencies to Van Houten. These references do not describe, suggest or teach the novel "twisted blades" and operating parameters("cfm", "rpm" and "watts") required by the subject claims.

The Tolbert reference also was cited in the parent application which matured into U.S. patent 7,014,423. Again, MPEP section 706.04 states that full faith and credit should be given to the action of a previous examiner unless there is clear error in the previous action or knowledge of other prior art. The examiner in the subject case should not take an entirely new approach or attempt to reorient the point of view of a previous examiner in mere hopes of finding something. *Amgen Inc. v. Hoechst Marion Roussel, Inc.* 126 F. Supp. 2d 69, 139, 57 USPQ 2d 1449(D-Mass 2001). Since the Tolbert reference was found to be overcome in the parent case which matured into a U.S. patent, removal of the Tolbert reference is respectfully requested here as well.

Tolbert discloses an HVAC system comprising a fan driven by an electric motor 16, a controller having many electrical elements such as rectifier 70, wave controller 74..etc. to selectively control the speed of the fan, on column 7, lines 22-24, Tolbert, Jr. et al. discloses its well known to drive the fan in different speeds, RPM to generate the appropriate CFM by the power of the motor.

The subject application is not directed toward selectively controlling the speed of the fan to generate the appropriate CFM by the power of the motor. Conversely, the subject application includes rotating twisted blades about a hub for increased CFM with a reduction in power of the motor as is required by the claims

According to Tolbert, optimum motor efficiency is achieved by selectively operating the motor at full load or partial load based on the condition of the space to be treated (Col. 8, lines 13-27). For example, at full load the system uses an input power of 400 watts to produce an

airflow of about 1000 cfm and when the system is operated at partial load, an airflow of about 600 cfm is achieved with an input power of 100 watts (col. 7, lines 39-44).

The claims of the subject application claim novel airflow output amounts produced by rotating the fan at selected rpm with an input power of selected watts. A comparison of the 1000 cfm airflow achieved using the electrical control system of Tolbert that requires an input power of about 100 watts with the results achieved by the subject application as claimed in claims 1 and 11 (2200 cfm with 110 watts) illustrates the significant difference between motor efficiency (Tolbert) and airflow efficiency (subject application). In fact, the system disclosed in Tolbert requires an increase in input power to achieve an increase in airflow. Using the example provided in Tolbert at column 7, lines 39-44, to increase the airflow from about 600 cfm to about 1000 cfm, the input power was quadrupled from 100 watts to 400 watts, suggesting that a significantly higher input power is required to achieve the airflow the subject claims.

Applicant strongly disagrees with the examiner's statements that "It is not patentable, ...to discover the optimum geometry and rpm of the blade by routine experimentation...." The examiner's statements are incorrect given the fact that previous examiners have allowed similar claims over identical and similar references. Again, MPEP section 706.04 states that full faith and credit should be given to the action of a previous examiner unless there is clear error in the previous action or knowledge of other prior art. The examiner in the subject case should not take an entirely new approach or attempt to reorient the point of view of a previous examiner in mere hopes of finding something. *Amgen Inc. v. Hoechst Marion Roussel, Inc.* 126 F. Supp. 2d 69, 139, 57 USPQ 2d 1449(D-Mass 2001). Since the Tolbert reference was found to be overcome in the parent case which matured into a U.S. patent, removal of the Tolbert reference is respectfully requested here as well.

The remaining references of record, cited but not applied fail to overcome the deficiencies to the other references described above.

It is clear error for the examiner to ignore any of the features of the claims. Under the rules of the MPEP, if the applicant requests the examiner cite the reference(s) showing each and every one of the references that supports a rejection, the examiner must cite the reference or remove the rejection. Under the patent rules, applicant requests the examiner specifically point out which uncited reference(s) describes and teaches these unsubstantiated opinions and assertions raised in the rejection that the entire invention is obvious under sec. 103. Under the patent rules, the examiner must cite the reference(s) that shows these unsubstantiated opinions and assertions mentioned in their rejection, or remove the 103 rejection for at least these reasons alone.

Arguably, it might be "obvious to try" to test whether to use "twisted blades" and "PSC" motors, and operating parameters of "cfm", "rpm" and "watts" as claimed by applicant. However, Examiner is well aware that "obvious to try" is not the standard for determining inventiveness. See also *In re Kaplan*, 789 F. 2d at 1580, 229 U.S.P.Q. at 683, where the court held:

"In effect, what the Board did was to use a disclosure of appellants' own joint invention which had been incorporated in the Kaplan sole disclosure to show that their invention was but an obvious variation of Kaplan's claimed invention. That amounts to using an applicant's invention disclosure, which is not a 1-year time bar, as prior art against him. That is impermissible."

The mere fact that someone in the art can rearrange parts of a reference device to meet the terms of a claim is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for someone of ordinary skill in the art, without the benefit of the inventor's specification to make the necessary changes in the reference device. *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984).

There is no teaching, nor suggestion for modifying the references of record to include all the novel features of the amended claims. Under well recognized rules of the MPEP (for example, section 706.02(j)), the teaching or suggestion to make the claimed combination and the


reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438(Fed. Cir. 1991).

Applicant includes a supplemental prior art submission listing U.S. Patents 4,995,787 to O'Connor and 5,184,938 to Harmsen which also do not overcome the deficiencies to all the other references cited above.

In view of the foregoing considerations, it is respectfully urged that the subject amendment be entered and claims 1-4, 6-10, 11-14, 26, 28, 30-35, 37, 38 and 60-71 be allowed.

Applicant respectfully requests for an interview with Examiners Chen-Wen Jiang and Examiner Cheryl Tyler if the above amendment does not place the application in condition for allowance. Such action is respectfully requested.

Respectfully Submitted;



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Date 12/7/06